

CLAIMS

6/27/11

1. A method of despreading a plurality of GPS spread spectrum signals received by a GPS receiver comprising the steps of:
- 5 - acquiring a first GPS signal;
- obtaining frequency information relating to variations in the frequency of the first acquired signal as measured by the GPS receiver; and
- using the frequency information to acquire a second GPS signal.
- 10 2. A method according to claim 1 wherein the frequency information is used to acquire the second GPS signal in the course of a single dwell.
3. A method according to claim 1 wherein the GPS receiver is a digital GPS receiver and the method further comprising the step of sampling
- 15 the received GPS signals and storing the samples in a memory, wherein the first GPS signal is acquired from the stored samples, and wherein the frequency information relates to variations in the frequency of the first acquired signal as present in the stored samples.
- 20 4. A method according to claim 3 wherein the frequency information is obtained by acquiring the first GPS signal from the stored samples more than once, using different sequences of the stored samples.
5. A method according to claim 3 wherein the frequency information
- 25 is obtained by tracking the first GPS signal through the stored sample sequence.
6. A method according to claim 1 wherein the frequency information is modified to offset those variations in frequency due to Doppler shift as
- 30 observed on the first GPS signal by the GPS receiver in so far as that Doppler shift is attributable to the motion of the GPS satellite from which the first GPS signal originated.

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7. A method according to claim 6 wherein the variations in frequency due to Doppler shift are calculated based on a last known position fix of the GPS receiver.

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8. A method according to claim 6 wherein the GPS receiver is incorporated in a mobile communications device adapted to communicate with a nearby communications base station; and wherein the variations in frequency due to Doppler shift are calculated based on a position fix provided by the communications base station.

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9. A method according to claim 8 wherein the position fix corresponds to the location of the communications base station.

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10. A method according to claim 1 wherein the frequency information is modified to compensate for variations in frequency due to Doppler shift as observed on the second GPS signal by the GPS receiver in so far as that Doppler shift is attributable to the motion of the GPS satellite from which the second GPS signal originated.

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11. A method according to claim 10 wherein the variations in frequency due to Doppler shift are calculated based on a last known position fix of the GPS receiver.

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12. A method according to claim 10 wherein the GPS receiver is incorporated in a mobile communications device adapted to communicate with a nearby communications base station; and wherein the variations in frequency due to Doppler shift are calculated based on a position fix provided by the communications base station.

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13. A method according to claim 12 wherein the position fix corresponds to the location of the communications base station.

14. A method according to claim 1 wherein the dwell time employed to acquire the first GPS signal is exceeded by that employed to acquire the second GPS signal.

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15. A GPS receiver able to despread a plurality of GPS spread spectrum signals received by the GPS receiver by a method according to claim 1.

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16. A mobile telephone comprising a GPS receiver according to claim 15.

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17. A method of despread a plurality of GPS spread spectrum signals received by a GPS receiver comprising the steps of:

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- sampling the received GPS signals and storing the samples in a memory;
- acquiring a first spread spectrum signal from the stored samples;
- obtaining frequency information relating to variations in the frequency of the first acquired signal present in the stored samples as measured by the GPS receiver;
- based on the frequency information, determining whether to resample the received GPS signals; and
- in the event that a determination to resample is made, resampling the received GPS signals

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18. A GPS receiver able to despread a plurality of GPS spread spectrum signals received by the GPS receiver by a method according to claim 17.

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19. A mobile telephone comprising a GPS receiver according to claim 18.

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